CLAIMS

1. A polyester resin produced by polycondensing a dicarboxylic acid component containing terephthalic acid or its ester-forming derivative as the main component, and a diol component containing ethylene glycol as the main component in the presence of (1) a compound of at least one member selected from the group consisting of titanium group elements in Group 4A of the periodic table, via an esterification reaction or an ester exchange reaction, characterized in that the content of copolymerized components other than the terephthalic acid component and the ethylene glycol component, is not more than 4 mol% based on the total dicarboxylic acid component, and in a molded product with a thickness of 3.5 mm injection-molded at 280°C, the difference between the absorbance at a wavelength of 395 nm and the absorbance at a wavelength of 800 nm is at least 0.08, and the difference between the absorbance at a wavelength of 500 nm and the absorbance at a wavelength of 800 nm is at most 0.05.

2. The polyester resin according to Claim 1, wherein the temperature-rising crystallization temperature (Tc) of the resin in the molded product after the injection molding at 280°C, is from 150 to 180°C.

3. The polyester resin according to Claim 1, wherein the resin before the injection molding is one having an intrinsic viscosity ([$\eta$]) of from 0.70 to 0.90 dl/g and

a color coordinate value b of the Hunter's color difference formula of not more than 4.

4. The polyester resin according to Claim 1, wherein the content of the compound (1) is from 0.002 to 1 mol as the total amount (T) of atoms of the compound (1) per 1 ton of the polyester resin.

5. The polyester resin according to Claim 4, which is one polycondensed in the coexistence of (2) a compound of at least one element selected from the group consisting of metal elements of Group Ia of the periodic table, elements of Group IIa of the periodic table, manganese, iron and cobalt, and (3) a phosphorus compound, wherein the content of the compound (2) is from 0.04 to 5 mols as the total amount (M) of atoms of the compound (2) per 1 ton of the polyester resin, and the content of the compound (3) is from 0.02 to 4 mols as the total amount (P) of atoms of the compound (3) per 1 ton of the polyester resin.

6. The polyester resin according to Claim 5, wherein the contents of the respective compounds (1), (2) and (3) are from 0.02 to 0.2 mol as the total amount (T) of atoms of the compound (1), from 0.04 to 0.6 mol as the total amount (M) of atoms of the compound (2) and from 0.02 to 0.4 mol as the total amount (P) of atoms of the compound (3), per 1 ton of the polyester resin, the acetaldehyde content ($AA_1$) is not more than 5.0 ppm, the acetaldehyde content ($AA_2$) of the resin in a molded product after

injection-molded at 280°C is not more than 20 ppm, and the haze of a molded product with a thickness of 5 mm after the injection molding at 280°C is not more than 10%.

7. The polyester resin according to Claim 1, wherein the compound (1) is a titanium compound, the compound (2) is a magnesium compound, and the compound (3) is a phosphoric acid ester.

8. The polyester resin according to Claim 1, wherein, as a dicarboxylic acid component, from 0.1 to 3 mol% of isophthalic acid or its ester-forming derivative based on the total dicarboxylic acid component, and as a diol component, from 1 to 3 mol% of diethylene glycol based on the total diol component, are copolymerized, respectively.

9. A process for producing a polyester resin, which comprises polycondensing a dicarboxylic acid component containing terephthalic acid or its ester-forming derivative as the main component, and a diol component containing ethylene glycol as the main component in the presence of (1) a compound of at least one member selected from the group consisting of titanium group elements in Group 4A of the periodic table, (2) a compound of at least one element selected from the group consisting of metal elements of Group Ia of the periodic table, elements of Group IIa of the periodic table, manganese, iron and cobalt, and (3) a phosphorus compound, via an esterification reaction or an ester exchange reaction, characterized in that the amounts of the

respective compounds (1), (2) and (3) are such amounts that their contents will be from 0.02 to 0.2 mol as the total amount (T) of atoms of the compound (1), from 0.04 to 0.6 mol as the total amount (M) of atoms of the compound (2) and from 0.02 to 0.4 mol as the total amount (P) of atoms of the compound (3), per 1 ton of the polyester resin.

10. The process for producing a polyester resin according to Claim 9, wherein the ratio (P/T) of the total amount (P) of atoms of the compound (3) to the total amount (T) of atoms of the compound (1), is from 0.1 to 10.

11. The process for producing a polyester resin according to Claim 9, wherein the ratio (M/T) of the total amount (M) of atoms of the compound (2) to the total amount (T) of atoms of the compound (1), is from 0.1 to 10.

12. The process for producing a polyester resin according to Claim 9, wherein the order for addition of the respective compounds (1), (2) and (3) to the reaction system is (3), then (2) and then (1).

13. The process for producing a polyester resin according to Claim 9, wherein the compound (1) is a titanium compound, the compound (2) is a magnesium compound, and the compound (3) is a phosphoric acid ester.

14. The process for producing a polyester resin according to Claim 13, wherein the titanium compound is added to the reaction system in the form of an ethylene glycol solution having a titanium atom concentration of from

0.01 to 0.3 wt% and a water concentration of from 0.1 to 1 wt%.

15. The process for producing a polyester resin according to Claim 9, wherein from 0.1 to 3 mol% of isophthalic acid or its ester-forming derivative is used based on the total dicarboxylic acid component.